Verification of Landfill Gas Greenhouse Gas Emissions Credits

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9th Annual LMOP Conference and Project Expo
January 18, 2006

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Presentation Outline

- Introduction
- Protocols
  - Chicago Climate Exchange
- Verification process
  - Steps
  - Evidence required
- What does this mean to me?

Landfill gases (LFG)

- Controlling methane from landfills results in a decrease in greenhouse gases (GHGs) through:
  - Flaring
  - Power generation
  - Natural gas production

GHG Credits from LFG

- Anyone may be able to generate GHG emissions credits
  - Exact requirements depend on scheme used
  - Must not already be required to control LFG
- Buyers/Markets want assurance that the credits are "real"
  - Verification process

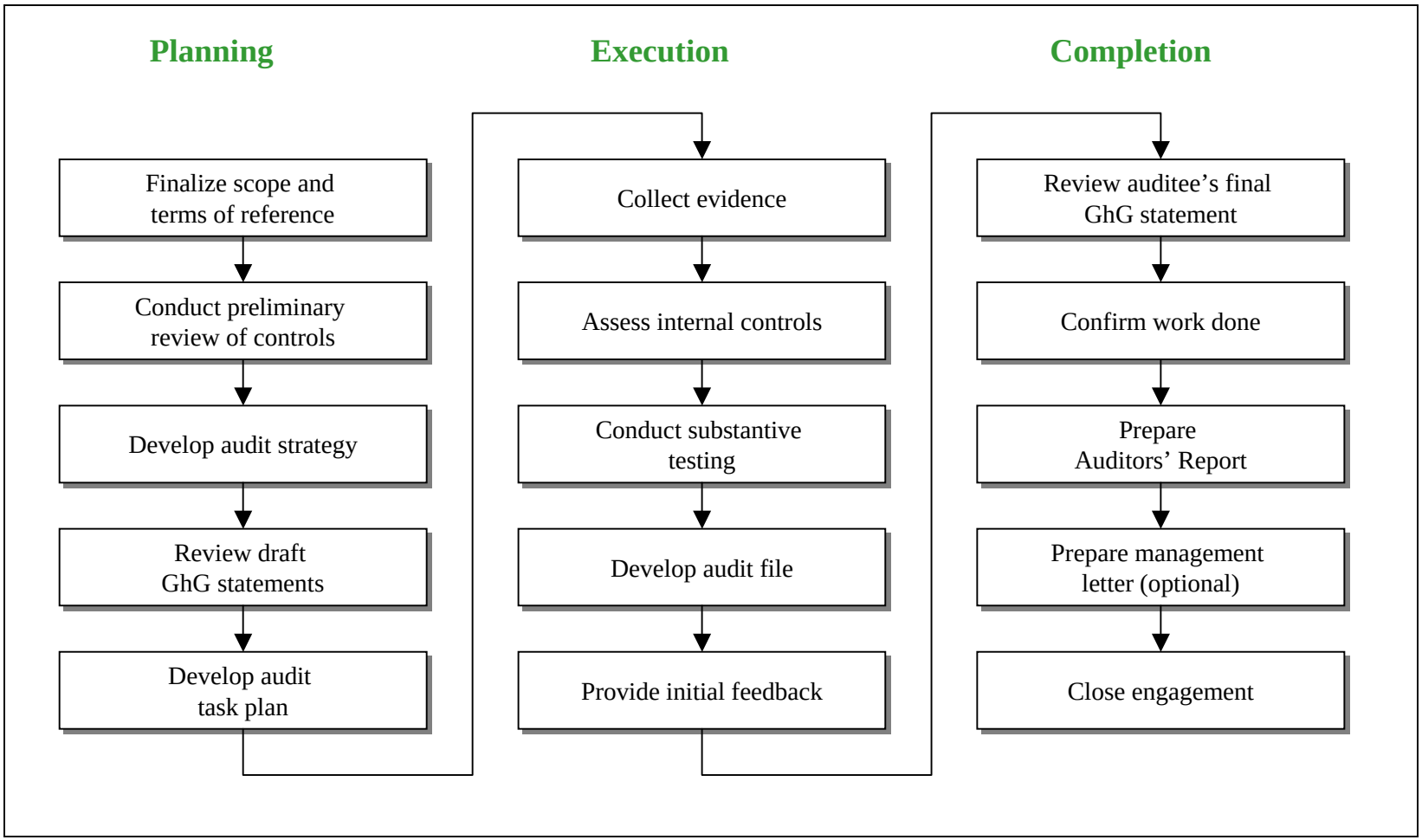
Why Verification?

- Requirement to Sell Credits
  - Companies are authorized to provide verification services
- Credibility
  - GHG emissions are not continuously monitored
  - Derived from electricity generation, methane content, gas flow data

Chicago Climate Exchange

- Two methods of calculating LFG credits
  - Use landfill gas flow and methane content data
  - Use electricity data
- Both use constants to calculate the CO_2-equivalent reduction quantities

General Overview of Audit Process



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The Audit Process

- Initial Review of Draft GHG Emissions Statements
- Corporate/Client Level (Macro) Review
- Collection of Evidence
  - Interviews, documentation, records…

The Audit Process (cont'd)

- Assessment of Site's Internal Controls
  - calculations per protocol, measurements, data systems, control procedures…
- Follow-up Detail Testing
- Auditor Statement

Collection of Evidence is Crucial

- Data and processes are reviewed
  - Activity data
  - Controls on data
  - Calibrations
  - Calculations
- Center around ensuring that the calculations are accurate

Activity Data

- LFG gas flow measurements
  - Circle charts
  - Computer log
- Methane content readings
  - Field readings
  - Laboratory data
- Electricity generation
  - Production data

Controls on Data

- Data compilation
- Procedures/processes
- Quality assurance
- Overall management system or operating system requirements

Calibrations

- Flow meter
- Electricity meter
- Methane content equipment
- Third party or in-house
- Records

Calculations

- Formulas
- Assumptions
- Data testing

The End Result

- Audit Statement
  - Companies allowed to respond to ‘corrective action’ items before final statement
- Management Report
  - Overview of audit process and findings
  - Identification of best practices
  - Opportunities for improvement

What does this mean to me?

- If you may want to use current data for future emissions credits…
  - Ensure that you perform calibrations on meters/monitoring equipment
  - Retain calibration records
  - Ensure that you have complete data

What does this mean to me? - 2

- If you may want to use current data for future emissions credits…
  - Note down time or errors in logging
  - Assemble evidence prior to audit
  - Ask questions!

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